

ART. XXIII.—*Synopsis of the species of PTEROSTICHUS Bon. and allied genera inhabiting temperate North America.*

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Although many attempts have been made to dismember the group of Carabica here treated of, yet a close analysis of the genera formed has always shown them to be untenable, and most systematic authors now follow the example of Dejean and Erichson in uniting them into a single genus, by some called *Feronia*, by others *Pterostichus*. By those who regard purity in the system of nomenclature, as possessing some claims to importance, the latter name is adopted, as it has priority by several years. In regard to the grouping of the large number of species composing this genus, so as to facilitate our knowledge of them, very little has been attempted, and the older divisions, at least as defined by Dejean, or by the English authors, so far from being of service, only tend to mislead the student.

Being now occupied in writing a synonymical catalogue of the Coleoptera of the United States, I have subjected all our species of *Pterostichus* to a critical examination, the results of which I here offer, with the addition of diagnoses of all the species observed.

The genera made by European authors, such as *Platyderus*, *Argutor*, *Omaseus*, *Platysma*, *Adelosia*, &c., I have entirely neglected, as I can find no definitions of them which are recognizable, and it is very doubtful, whether, being founded on merely slight differences in form of body, they should be considered as belonging to anything more than the particular European species, which were chosen as types.

The only memoir that I have been able to refer to with any satisfaction, is that of Baron Chaudoir;* and although, as will be seen in the sequel, I find it impossible to adopt the numerous genera founded by him, yet I cannot but consider his essay as the first rational attempt made to partition the species according to their real affinities.

I have been able to separate distinctly only five genera from the genus as left by Dejean: *PÆCILUS* Bon.; *EVARTHUS* Lec.; *LOXANDRUS* Lec.; *LOPHOGLOSSUS* Lec.; and *HOLCIOPHORUS* Lec.

The second of these was already established by Chaudoir upon a single species under the name *Cyclotrachelus*, which is totally inapplicable to most of the species of the genus as here set forth: as, moreover, Baron Chaudoir would probably refuse to

* Bulletin Soc. Imp. Nat. de Moscou, 1838, No. 1.

consider my group as constituting a single genus, corresponding with his *Cyclotrachelus*, I have felt myself compelled to adopt a new name, leaving to those who may wish still farther to divide the genus, the power of restoring *Cyclotrachelus* to the particular set of species for which it was intended.

The third genus is precisely equivalent to Chaudoir's genus *Megalostylus*,* which name was however previously employed by Schönherr for a genus of Curculionites.

The two last genera, *LOPHOGLOSSUS* *Lec.* and *HOLCIOPHORUS* *Lec.*, have been separated on account of the structure of the ligula, which, instead of being flat, or slightly convex, as in the other genera of this group, is strongly carinate; as in the genera above referred to, these differences are accompanied by peculiar sexual structures in the male, so that throughout this group the males have much more generic character than the females, and it is indeed the permanency of these sexual characters throughout closely allied species that gives the first distinct clue towards a dismemberment of the group.

In establishing the diagnoses of these genera, we are, however, compelled to neglect these sexual characters, as they are applicable to the males alone. But having once recognised by their aid the existence of natural genera, and having sketched out their limits, we may then make use of characters of less importance to define these genera. Thus I have been compelled to rely upon dorsal punctures for the generic character; and although there is such a gradual transition from those with several dorsal punctures, to those with none at all, yet it is singular that those species with single dorsal punctures form well defined genera, not merging at all into the others.

Our genera may be separated by the following synoptic table :

A. Antennæ articulis basalibus cylindricis		
Elytra unipunctata : parapleuræ breves.	. . . . .	EVARTHUS.
Elytra impunctata vel pluripunctata.		
Ligula plana, vel paulo convexa.	. . . . .	PTEROSTICHUS.
Ligula carinata, parapleuræ longæ.	. . . . .	LOPHOGLOSSUS.
Ligula carinata, parapleuræ breves.	. . . . .	HOLCIOPHORUS.
Elytra unipunctata ; parapleuræ elongatæ.	. . . . .	LOXANDRUS.
B. Antennæ articulis basalibus carinatis.		. . . . . PÆCILUS.

These genera form a little group in the family of the Pterostichini, distinguished by having the mentum strongly toothed, the tooth usually bifid and concave; the ligula truncate with linear paraglossæ; the palpi slender and cylindrical, the last joint truncate, never longer than the preceding, and usually a little shorter. The anterior angles of the mentum are sometimes acute and sometimes rounded, but for systematic purposes, as little use can be made of them as of the angles of the thorax. The posterior legs are sometimes close to the intermediate ones, and sometimes far removed. This character is constant throughout every genus, except *Pterostichus*, where there

* Bulletin Soc. Imp. Nat. de Moscou 1842, p. 24.

are transitional forms. The posterior tibiæ are finely and sparsely ciliate with bristles and sometimes almost smooth in *Evarthrus*, *Pterostichus*, *Lophoglossus* and *Holciophorus*; they are strongly spinous in *Loxandrus* and *Pœcilus*. The posterior and intermediate tarsi have on the outer margin two grooves with an intermediate ridge extending usually to the third joint. This is wanting in *Evarthrus*, *Holciophorus*, *Lophoglossus* and a few species of *Pterostichus*.

The three first joints of the anterior tarsi of the male are dilated, and furnished beneath with a double series of papillæ; the dilated joints are oblique in *Loxandrus*; transverse and not emarginate in *Evarthrus*; obcordate, sometimes transverse, but more or less emarginate in the other genera. The intermediate tibiæ are emarginate near the apex on the inner surface and armed with two teeth in the males of *Lophoglossus*. The posterior tibiæ are serrate internally along their whole extent in *Holciophorus*, and slightly curved inwards in *Loxandrus*. The last ventral segment is sculptured in various ways in the males of many *Pterostichus* and *Holciophorus*: it is simple in the others.

There is but a single anal puncture each side in both sexes of *Evarthrus*, except in *E. mancus*, where the female has two: there are two in the females and one in the males of most *Pterostichi*: there are, however, two in both sexes of *P. Isabellæ* and *P. illustris*.

EVARTHUS Lec.

Antennæ articulis basalibus simplicibus: labrum vix emarginatum: ligula convexa, apice rotundata, subtruncata, paraglossis linearibus, eam paulo superantibus; palpi articulo subcylindrico; parapleuræ breves; elytra unipunctata, stria scutellari vel brevi, vel distincta; tarsi posteriores extus non sulcati; tarsi maris antici articulis tribus dilatatis triangularibus præcipue transversis non emarginatis.

Besides the characters given above, the first joint of the abdomen, except in the last species, is marked on each side with a deep transverse line, appearing like a suture. The anal punctures are single in each sex, except in the last species: the last ventral segment of the male is usually without impressions; in the first four species it has two faint impressions separated by a longitudinal elevation. In *E. conviva*, it has a single impression. In *E. mancus* there is a small transverse tubercle near the apex.

The dorsal puncture is always situated on the third stria just behind the middle. When by a monstrosity, the puncture becomes double, the second is always close to the normal one. The pectus and venter are never punctured: all are without wings.

According to the form of the thorax and position of the ninth stria of the elytra we may divide the species as follows:

1. Striis marginalibus valde approximatis.

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|---|-----------|-----------|
| a. Thorace quadrato, postice utrinque biimpresso. | | Sp. 1—5. |
| b. Thorace cordato, postice biimpresso. | | Sp. 6—8. |
| c. Thorace rotundato-cordato, postice unistriato. | | Sp. 9—12. |

2. Striis marginalibus non approximatis.

- d. Thorace rotundato-cordato, postice unistriato. Sp. 13—17.
 e. Thorace cordato, postice utrinque bistriato. Sp. 18—29.

a.

The species of this group are somewhat oblong insects, usually of a dull black color, with little lustre. The thorax is quadrate, rounded on the sides, with the posterior angles obtuse, not rounded, and not prominent; the basal impression is very distinctly double, with a slight ridge at the margin; the posterior transverse impression is so deep on each side as to appear like a third basal impression; the anterior transverse line is deep. The elytra are marked with entire but not deep striæ, which are distinctly punctured; the eighth and ninth are very closely approximated, being scarcely as far apart as the diameter of the ocellate punctures which are between them; the scutellar stria is usually an oblong point. The last ventral segment of the males is widely impressed; in the first four species this impression is divided by a longitudinal elevation, in *E. conviva*, it is single and undivided.

1. *E. Engelmani*, thorace transverso, distinctius marginato, margine versus basin latius reflexo, elytris profundius striato-punctatis, interstitiis modice convexis. Long. .92.

Texas: collected by Lindheimer, and given me by Dr. Engelman. It resembles very closely *E. americanus*, but is larger, the thorax is more broadly margined on the sides posteriorly, and the margin is reflexed. The elytra are more deeply striate, and the interstices are tolerably convex.

2. *E. sigillatus*, thorace subtransverso, tenuius reflexo-marginato, elytris striis profunde punctatis interstitiis planiusculis. Long. .67.

Feronia sigillata Say. Trans. Am. Phil. Soc. 2, 42.

Feronia vidua Dej. Sp. Gen. 3, 278.

Middle States and Missouri Territory. The margin of the thorax is reflexed as in the preceding, but is scarcely wider behind than before.

3. *E. seximpressus*, thorace subtransverso, postice latius reflexo-marginato, elytris striis profunde punctatis interstitiis planis. Long. .58—.62.

Feronia seximpressa Lec. An. Lyc. 4, 350.

Missouri Territory, near Long's Peak. This species nearly resembles the preceding, but the reflexed margin of the thorax is wider posteriorly than even in *E. Engelmani*.

4. *E. americanus*, thorace antrorsum subangustato tenuiter marginato, margine non reflexo, elytris striato-punctatis, interstitiis fere planis. Long. .8.

Feronia (Abax) americana Dej. Sp. Gen. 3, 392.

South Carolina and Georgia, not common. Dejean failed to recognize the relation between this species and *E. sigillatus*, from which it differs only by having the thorax a little narrowed in front, a little less rounded on the sides, with the margin very narrow and not reflexed.

5. *E. conviva*, thorace non transverso, postice subangustato, tenuiter marginato, impressionibus basalibus valde abbreviatis, elytris striato-punctatis, interstitiis planissimis. Long. .65.

Alabama; Haldeman. Resembles *E. sigillatus*, but is narrower, the thorax is not at all transverse, less rounded on the sides, and a little narrowed behind; the margin is very narrow and scarcely reflexed: the posterior transverse is almost entire, and the basal impressions are deep, but so short as to cause only a slight undulation in the transverse impression; the elevated ridge adjacent to the angle is very indistinct, and the angle itself is much less obtuse. The elytra are not widened behind, the striae are strongly punctured, and the interstices flat; in the only specimen I have seen, the scutellar stria is very distinct, but as this is not the case with any of the allied species, I am inclined to consider it as abnormal.

b.

Oblong, depressed species, closely related to the preceding division, but having the thorax much more rounded on the sides, and narrowed behind, the posterior angles are sometimes sharp and sometimes obtuse; the posterior transverse impression well marked; the basal impressions large and deep with two distinct striae, and the ridge adjacent to the angle is very distinct; the anterior transverse impression almost obsolete, the margin is narrow, not reflexed; the marginal striae of the elytra are approximated: the striae are usually punctured, the scutellar stria sometimes distinct, and sometimes punctiform, varying in the same species; the seventh interstitial space is slightly elevated at the base.

6. *E. vagans*, nitidus, thorace angulis posticis obtusis, impressionibus basalibus vix rugosis, elytris profunde striatis, interstitiis planissimis. Long. .6.

Feronia vagans Lec. An. Lyc. 4, 349.

Ohio. I have never seen but one specimen of this species, which is narrower than the next two, and has the elytral striae impunctured.

7. *E. orbatus*, thorace lateribus postice sinuatis, angulis posticis rectis, prominulis, impressionibus basalibus rugosis, elytris tenuiter striato-punctatis, interstitiis fere planis. Long. .68.

Feronia orbata Newman. Ent. Mag. 5, 386; Lec. An. Lyc. 4, 348.

Feronia sodalis Lec. An. Lyc. 4, 349.

Middle and Southern States. The male is shining, the female dull black.

8. *E. corax*, nitidus, thorace lateribus postice sinuatis, angulis posticis rectis prominulis, impressionibus basalibus rugosis, elytris profunde striatis, stria punctulatis, interstitiis convexis. Long. .61.

Feronia (Molops) corax Lec. An. Lyc. 4, 347.

I have only two males of this species; they were found near Long's Peak.

c.

More slender, somewhat depressed species, having the thorax very much rounded on the sides, and much narrowed behind, with the posterior angles nearly obtuse and sometimes rounded; neither of the transverse impressions is distinct, and the basal

impression is single and linear, and sometimes very short, the margin is narrow and not reflexed; the striæ of the elytra are fine and punctured, usually only as far as the middle, the scutellar stria punctiform; the two marginal striæ very closely approximated. This division corresponds to *CYCLOTRACHELUS* Chaud.

9. *E. unicolor*, opacus, thorace non transverso, lateribus postice subsinuatis, angulis posticis subrectis, impressionibus basalibus longiusculis, elytris tenuiter striato-punctatis, dorso deplanatis. Long. .75.
Feronia unicolor Say. Trans. Am. Phil. Soc. 2, 40.

A single male from the upper part of Georgia: Louis LeConte.

10. *E. rotundatus*, subnitidus, thorace transverso, angulis posticis obtusis, striola basali abbreviata, elytris tenuiter striato-punctulatis. Long. .75.

One female: Athens, Georgia. Prof. John LeConte. This species is nearly related to the last, but is wider in its form. The posterior angles of the thorax are obtuse and scarcely prominent, the basal impressions are deep, but short; the striæ of the elytra are very fine, the punctures are distinct and close set, becoming obsolete at the middle, and the disc is not at all flattened.

11. *E. Brevoorti*, nitidus, thorace subtransverso, angulis posticis obtusis, striola basali abbreviata, elytris dorso sub-deplanatis, striis fere ad apicem punctatis. Long. .63.
Feronia Brevoorti Lec. An. Lye. 4, 352.

Alabama, Haldeman: Georgia, near the mountains. The striæ are deeper than in the preceding, the punctures are large and extend nearly to the apex; the elytra of the male are more flattened than those of the female.

12. *E. faber*, subopacus, thorace transverso, angulis posticis obtusissimis, striola basali brevi, elytris latioribus tenuiter striatis, striis usque ad medium punctatis. Long. .53.
Molops faber Germ. Ins. Nov. 23.
Feronia tenebricosa Dej. Sp. Gen. 3, 301.
Cyclotrachelus tenebricosus Chaud. Bull. Mosc. 1838.
Feronia spoliata Newman. Ent. Mag. 5, 386.
Steropus faber Lec. An. Lye. 353.

Southern and western States, abundant.

d.

We have here small convex shining species, resembling in form *Pasimachus depressus*: the antennæ are thick and somewhat moniliform; the thorax is rounded, very much narrowed behind, with the posterior angles sometimes distinct, and sometimes rounded; the anterior transverse line is sometimes entire, sometimes interrupted: the basal impressions are single and short; the margin is extremely narrow, not reflexed, sometimes entirely obsolete posteriorly. The elytra are sometimes without striæ; the seventh stria is always obliterated; the two marginal striæ are not approximated; and the outer one is sometimes obsolete. In the Annals of the Lyceum, I considered these species as belonging to *Broscus*, not having at that time seen a male of any of the species.

13. *E. acutus*, thorace margine integro, angulis posticis prominulis, linea transversa anteriore obsoleta, elytris striis profundis, punctulatis, pedibus rufo-piceis. Long. .4.

Louisiana, Dr. Schaum. Black, very shining, head large, obtuse, antennæ black at base, rufo-piceous beyond the middle, scarcely as long as the head and thorax; thorax subtransverse, not at all narrowed at the apex, which is scarcely emarginate, very much narrowed behind, and rounded on the sides, sinuate at the posterior angles, which are very small acute and prominent; lateral margin not interrupted; anterior transverse impression distinct, anterior line none; dorsal line deep, a little abbreviated at each end; basal impressions very short. Elytra not wider than the thorax, interior striæ strongly marked, punctured, sixth and seventh striæ obsolete; exterior marginal stria distinct. Feet rufo-piceous.

14. *E. obsoletus*, thorace margine integro, angulis posticis obtusissimis, linea transversa anteriore nulla, elytris striis profundis, punctatis, pedibus rufo-piceis. Long. .41.

Feronia obsoleta Say. Trans. Am. Phil. Soc. 4, 424.

Brosus obsoletus Lec. An. Lyc. 4, 354.

Alabama, Haldeman. The thorax has anteriorly neither a transverse impression nor an impressed line; the basal foveæ are deep and small; the elytra are a little wider than the thorax, the outer marginal stria is distinct. In the Annals of the Lyceum, by a misprint, the second volume of the Trans. Am. Phil. Soc. is quoted for this species. The *Feronia obsoleta* of that volume is, however, very different, being a *Platynus*, and the same as *Agonum luctuosum* Dej.

15. *E. approximatus*, thorace margine integro, angulis posticis obtusissimis, linea transversa anteriore integra, margini approximata, elytris striis internis sat profundis, punctatis, pedibus rufo-piceis. Long. .4.

Brosus approximatus Lec. An. Lyc. 4, 354.

Pennsylvania, Melsheimer. Very similar to the preceding; the striæ of the elytra are less deep; the outer marginal stria is less distinct.

16. *E. lævipennis*, thorace margine integro, angulis posticis obtusis, linea transversa anteriore medio interrupta, elytris obsolete striatis, pedibus rufo-piceis. Long. .35.

Brosus lævipennis Lec. An. Lyc. 4, 354.

Georgia, Louis LeConte. In the position of the outer marginal stria it agrees with the preceding species.

17. *E. morio*, thorace margine pone medium obsoleto, angulis posticis obtusissimis, linea anteriore transversa a margine remota, elytris nunc obsolete striatis, pedibus rufo-piceis. Long. .4.

Feronia (Steropus) morio Dej. Sp. Gen. 3, 302.

Brosus morio Lec. An. Lyc. 4, 355.

Georgia, not common. The external marginal stria is wanting, or is so closely approximated to the margin itself as to be invisible; the striæ of the elytra when visible are punctured.

e.

These are species very similar in appearance to those in (b.) but usually of a more slender form, and with the thorax more rounded on the sides, and more constricted behind; the posterior angles are always prominent, the basal impressions are usually large and deep, bistriate, and with a small ridge between the outer stria and the margin. The anterior transverse line is either entire or interrupted; the margin narrow, not reflexed; the striæ of the elytra usually deep, the seventh rarely indistinct or obliterated; the outer marginal stria distinct, not nearer to the inner one than to the margin. They are mostly western species, inhabiting the plains of Missouri Territory.

18. *E. vinctus*, thorace non transverso, basi non rugoso, stria exteriori basali brevissima, linea transversa anteriore oblitterata, elytris profunde striato-punctulatis, interstitiis convexis. Long. .43.

Nakutshi valley, Habersham Co., Georgia. Shining black; thorax not wider than long, not at all narrowed at the apex, which is scarcely emarginate, very much narrowed behind, where it is only half as wide as at the apex, moderately rounded on the sides, sinuate posteriorly, angles acute, prominent; interior basal impression long, exterior extremely short, almost obsolete; carina obsolete; anterior transverse line and impression wanting.

19. *E. abdominalis*, thorace non transverso, lateribus late oblique rotundatis, postice breviter sinuatis, basi non rugoso, linea transversa anteriore oblitterata, elytris profunde striatis, pedibus rufo-piceis, ventre piceo. Long. .4.

Feronia (Molops) abdominalis Lec. An. Lyc. 4, 347.

Found near Long's Peak. The striæ of the elytra are scarcely punctured.

20. *E. lixa*, thorace subtransverso, lateribus late rotundatis, postice breviter sinuatis, basi subrugoso, linea transversa anteriore margini approximata, elytris striato-punctatis, interstitiis subplanis, pedibus rufo-piceis. Long. .4.

Feronia (Molops) lixa, Lec. An. Lyc. 4, 346.

Found with the preceding, from which it differs by the greater rounding of the sides of the thorax, by the striæ of the elytra being less deep, and more evidently punctured.

21. *E. incisus*, thorace subtransverso, lateribus late rotundatis, postice brevissime sinuatis, basi subrugoso, linea transversa anteriore margini approximata, elytris profunde striatis, striis obsolete punctulatis pedibus rufo-piceis. Long. .4.

Feronia (Molops) incisa Lec. An. Lyc. 4, 345.

Also from Missouri Territory. The real difference between this and the preceding species consists in the smaller size of the posterior angles of the thorax. In one specimen the anterior transverse line is interrupted in the middle.

22. *E. ovipennis*, longior, thorace subtransverso, lateribus rotundatis postice breviter sinuatis, basi subrugoso, linea transversa anteriore margini approximata, elytris elongatis striis vix punctulatis, interstitiis subplanis. Long. .53.

Feronia (Molops) ovipennis Lec. An. Lyc. 4, 345.

With the preceding, one female. The thorax is more rounded on the sides than in those above described; the elytra are longer than in the next, and scarcely as wide as the thorax; the feet are black.

23. *E. latebrosus*, brevior, thorace subtransverso, lateribus rotundatis, postice breviter sinuatis, basi subrugoso, linea transversa anteriore margini approximata, elytris striis punctatis, interstitiis subconvexis. Long. .45.

Missouri Territory, Prof. Agassiz; Illinois, Wilcox. I should consider this as the same as the preceding but for the difference in form, which is evidently in favor of their being different. Both sexes are much more robust than the female ovipennis; the only other difference consists in the deeper and strongly punctured elytral striæ.

24. *E. constrictus*, longior, thorace subtransverso, lateribus valde rotundatis, postice breviter sinuatis, basi subrugoso, linea transversa antica margini subapproximata, elytris profunde striatis, striis punctulatis. Long. .5.

Feronia constricta Say. Journ. Ac. Nat. Sci. 4, 147; Trans. Am. Phil. Soc. 4, 427; Lec. An. Lyc. 4, 344.

Missouri Territory, abundant. The thorax is much more rounded on the sides than in any of the preceding, the base is only about one half as wide as the apex.

25. *E. substriatus*, latior, thorace transverso, lateribus valde rotundatis, postice breviter sinuatis, basi rugoso, linea transversa antica margini subapproximata, elytris tenuiter striato-punctulatis, interstitiis planissimis. Long. .57.

Feronia (Molops) substriata Lec. An. Lyc. 5, 344.

Missouri Territory and Santa Fe, abundant. The thorax wider than in the preceding, very much rounded at the sides, and less constricted at the base, which is two-thirds as wide as the apex. The outer striæ of the elytra are very indistinct.

26. *E. fatuus*, thorace transverso, lateribus valde rotundatis, postice breviter sinuatis, basi rugoso, linea transversa antica oblitterata, elytris tenuiter striato-punctulatis, interstitiis planis. Long. .67.

Iowa, Mr. Wilcox, one female. Resembles very much the next species, but the sinuated part of the sides of the thorax is much shorter, and the hind angles although rectangular are not prominent.

27. *E. colossus*, thorace transverso, lateribus valde rotundatis, postice sinuatis, angulis posticis valde prominulis, linea transversa anteriore tenni, basi utrinque rugose punctato, elytris tenuiter striato-punctatis, interstitiis subconvexis. Long. .75.

Feronia (Molops) colossus Lec. An. Lyc. 4, 343.

One male found near the Kansas River. This species scarcely differs from Say's description of *Feronia heros*, (Journ. Ac. Nat. Sci. 3, 145) but it is so much smaller, that I have not dared to consider it as the same. The species of this group are so numerous and so very closely allied, that it is necessary to be cautious about applying the names of previous describers. Say describes his *F. heros* as more than nine-tenths of an inch long, and as having a convex thorax, neither of which will apply to

E. colossus. By an error which is entirely unaccountable, I have in the *Annals* of the Lyceum placed *Feronia heros* Say, as synonymous with *F. americana* Dej. The latter will be found in the first division of the present genus.

28. *E. furtivus*, thorace subquadrato, postice angustato, lateribus late rotundatis, postice brevius sinuatis, basi rugoso, linea transversa anteriore tenui, elytris striato-punctulatis, interstitiis planis. Long. .6.

One male, Lake superior. This species is different in form from the others of this division, and approaches more closely to *E. orbatus* of division (b).

Shining black. Thorax wider than the head subquadrate, somewhat cordate, broadly and obliquely rounded on the sides, moderately narrowed behind, sides slightly sinuate at the posterior angles, which are rectangular, and but little prominent; anterior transverse line fine, near the margin, dorsal line almost entire; basal impressions deep, rugous, striæ distinct, the inner one a little longer, carina distinct. Elytra a little wider than the thorax, somewhat rounded on the sides, striæ deep, finely punctured, interstitial spaces almost flat; outer marginal stria equidistant from the eighth stria and the margin. Antennæ rufo-piceous, black at base.

29. *E. mancus*, thorace trapezoideo, postice angustato, lateribus late rotundatis, angulis posticis obtusis subrotundatis, impressione basali elongata, lineari, punctoque ad angulum oblongo notato, elytris non latioribus convexis, profunde striatis. Long. .45.

Nakutshi Valley, Habersham County, Georgia. This species differs from all the preceding ones in having the first joint of the abdomen scarcely impressed. The scutellar stria of the elytra is punctiform; the striæ are a little less deep towards the tip. The thorax has no transverse impressions, the basal impression is deep. The last ventral segment in the male has a small transverse tubercle near the apex.

PTEROSTICHUS Bon.

Antennæ basi non carinatæ; mentum dente medio concavo, vel emarginato, vel obtuso; ligula subplana, apice rotundato-truncata, paraglossis linearibus ea paulo longioribus; parapleuræ vel elongatæ vel breves; elytra stria scutellari notata, punctis dorsalibus vel nullis, vel pluribus; tibiæ posteriores extus vix spinulosæ; tarsi antici maris articulis tribus primis obcordatis, plus minusve emarginatis.

A very numerous genus, and somewhat variable in generic characters, but which may be easily divided in natural groups, by taking into account those structures upon which specific characters are impressed. The variations in generic characters can scarcely be used for systematic division, since every imperceptible gradation occurs between those with short and those with long epipleuræ; those with the tarsal grooves on the outer margin deep, and those with the same grooves nearly obsolete; and also between those with a bifid tooth in the chin, and others in which the tooth is simply obtuse. The marginal stria (the 9th) is never approximated to the ocellate punctures. The variations in the characters above referred to will be pointed out

under the particular groups in which they occur. The following table will express the relation of the groups among themselves.

- A. Margine elytrorum bistriato.
- B. Margine elytrorum unistriato.
- 1. Thorax tenuiter marginatus ; parapleuræ breves.
 - a. Elytra punctis dorsalibus nullis. Sp. 1—17.
 - b. Elytra bipunctata. Sp. 18.
 - c. Elytra tripunctata, stria scutellari distincta. Sp. 19.
 - d. Elytra tripunctata, stria scutellari nulla. Sp. 20—21.
- 2. Thorax tenuiter marginatus ; parapleuræ longæ.
 - e. Thorax basi unistriatus ; elytra tripunctata. Sp. 22—28.
 - f. Thorax basi bistriatus ; elytra tripunctata. Sp. 29—32.
 - g. Thorax basi unistriatus ; elytra 5-punctata. Sp. 33—34.
- 3. Thorax fortius marginatus.
 - h. Thorax basi bistriatus ; elytra bipunctata. Sp. 35—38.
 - i. Thorax basi foveatus ; elytra bipunctata. Sp. 39.
 - k. Thorax basi foveatus ; elytra 4-punctata. Sp. 40.
 - l. Thorax basi foveatus ; elytra irregulariter striata. Sp. 41.
 - m. Thorax basi bistriatus ; elytra tripunctata. Sp. 42—44.

A.

None of the species of this genus are found in North America ; they may be divided into several groups, such as *Abax*, *Molops*, &c., according to the form of the thorax. *Feronia quadricollis* LeConte, An. Lyc. 4, 343, does indeed belong here, but it is no American insect, and is identical with *Pterostichus parallelus* of Europe.

a.

We have here a large number of species, usually of a slender form, with the thorax quadrate and gradually narrowed behind ; the margin of the elytra is moderate and has but a single stria ; the elytra have no dorsal punctures ; the parapleuræ are short. For the better determination of the species, which are frequently very closely allied, this group may be subdivided :

- α. Thorace basi immarginato. Sp. 1—9.
- β. Thorace margine basali medio interrupto. Sp. 10—15.
- γ. Thorace basi tota marginata. Sp. 16—17.

α—α.

The thorax is trapezoidal, narrowed behind, the posterior angles distinct, not prominent ; the basal impression is linear and single except in the two first species in which there is a short outer impression, margined in the first by a very faint carina ; the base is entirely without a marginal line. The anterior tarsi of the males are variable

in their form; the dilated joints are broad and almost transverse in the first two species, while in the others they are distinctly longer than wide; in both sexes of *P. rostratus* and *P. grandiceps*, the fourth joint is scarcely narrower than those which precede, and the last joint is much flattened and broader than in the other species. The grooves on the outer margin of the posterior tarsi are not deep. This group corresponds in part with Chaudoir's genus *Haplocœlus*.

1. *P. rostratus*, capite magno, mandibulis porrectis, thorace lateribus vix rotundatis, basi subbistriato, elytris thorace non latioribus, striis profundis, obsolete punctulatis. Long. .65.

Feronia rostrata Newman, Ent. Mag. 5, 387.

Southern and Western States; the striæ of the elytra are sometimes entirely smooth, sometimes slightly punctulate. The male has a shallow round impression on the last ventral segment.

2. *P. grandiceps*, capite magno, mandibulis porrectis, thorace lateribus vix rotundatis, basi vix bistriato, elytris thorace non latioribus, striis profundis punctatis. Long. .54.

Stereocerus grandiceps Lec. An. Lyc. 4, 336.

One female, New York. Very similar to the preceding, but besides the stronger punctuation of the striæ of the elytra, the outer impression at the base of the thorax is less distinct, and there is no carina near the margin; the lateral margin is also finer; the scutellar stria of the elytra is indistinct.

3. *P. adoxus*, thorace capite latiore, tenuiter marginato, postice angustato, lateribus modice rotundatis, angulis posticis denticulatis, basi recte truncato, unistriato, elytris vix latioribus striis valde profundis, interstitiis convexis. Long. .53.

LeConte, Agassiz Lake Superior, 207.

Feronia adoxa Say, Trans. Am. Phil. Soc. 2, 46.

Feronia (Platysma) tristis Dej. Sp. Gen. 3, 324.

Feronia interfector Newman, Ent. Mag. 5, 387.

Common in every part of the Atlantic Zoological district. The last ventral segment of the male has two deep impressions, separated by a longitudinal elevation.

4. *P. sustentus*, thorace capite latiore, distinctius marginato, postice angustato, lateribus modice rotundatis, angulis posticis subrectis, basi recto, unistriato, elytris vix latioribus, striis valde profundis, interstitiis convexis. Long. .52.

One pair, Nakutshi Valley, Habersham County, Georgia. This species is extremely similar to *P. adoxus*, but the thorax is more broadly margined, and the posterior angles are not denticulate; otherwise there is but little difference. In my two specimens the feet are rufo-piceous. The joints of the tarsi of the male are a little narrower and less emarginate than in *P. adoxus*; the last ventral segment is carinate and less deeply impressed.

5. *P. reiectus*, thorace capite latiore, tenuiter marginato, postice angustato, lateribus modice rotundatis, angulis posticis apice rotundatis, basi recto utrinque striato, elytris vix latioribus, striis valde profundis, interstitiis convexis. Long. .53.

One specimen, New York. Also similar to *P. adoxus*, but the posterior angles of the thorax are neither prominent, nor sharp, but are slightly rounded at the tip. Newman's *P. interfactor* may be either of the three species, but there is nothing in his description which refers to one more than to the other; I have therefore placed it under that which is best known.

6. *P. Isabellæ*, thorace latitudine subbreuiore, distinctius marginato, lateribus late rotundato, postice angustato vix brevissime sinuato, basi recto, utrinque minus profunde striato, elytris vix latioribus, striis obsolete punctulatis, postice profundioribus. Long. .66.

Lec. An. Lyc. 5, 58.

Found at 'Bill Williams' Ranch' in the mountains east of San Diego, California. Resembles *P. illustris*, but the thorax is less sinuate behind, and the mesopleuræ are sparsely punctured. The male has two anal punctures each side.

7. *P. contractus*, angustior, thorace latitudine fere longiore, distinctius marginato, lateribus late rotundato, postice angustato et brevissime subsinuato, basi recto, utrinque striato, elytris vix latioribus, dorso subdepressis, striis postice paulo profundioribus. Long. .50.

Lec. An. Lyc. 5, 58.

San Francisco and San Jose, California: narrower than either *P. Isabellæ*, or *P. illustris*, with less convex elytra; the mesopleuræ are punctured as in the preceding. The striæ of the elytra are altogether smooth, and the interstices moderately convex.

8. *P. illustris*, thorace latitudine sublongiore, distinctius marginato, lateribus rotundato, postice angustato et longius sinuato, basi recto, utrinque minus profunde striato, elytris vix latioribus, striis postice profundioribus. Long. .47—7.

Lec. An. Lyc. 5, 58.

San Diego, California.

9. *P. fastiditus*, thorace latitudine vix brevior, tenuiter marginato, lateribus rotundato postice magis angustato et brevissime sinuato, basi recto, utrinque profunde striato et parce punctato, elytris ovalibus, thorace plus sesqui latioribus, profunde striatis. Long. .32.

Lec. Agassiz' Lake Superior, 207.

Feronia (Platysma) fastidita Dej. Sp. Gen. 3, 323.

Stomis americana Lap. Etudes Entom. 1, 72, (teste Chaudoir, Obs. Kiew. 1847.)

Throughout the Atlantic zoological district, rare; the whole postpectus and the sides of the abdomen are punctured. The male has a very faint elevation towards the apex of the abdomen.

a—β.

These species are very similar to the preceding, but are a little less graceful in their form, the thorax being not so much narrowed behind; the posterior angles are rectangular, never rounded; the base is slightly margined near the posterior angle, but the margin does not extend inwards beyond the basal impression, although not connected with it. The basal impression is linear, deep, and single. The males

have the dilated joints of the anterior tarsi broader than in the preceding group and subtransverse; the fourth and fifth joints are narrow. It corresponds with Chaudoir's *Brachystylus*, and *Hypherpes*; the last three species of this group have the groove on the outer margin of the posterior tarsi distinct.

10. *P. subarcuatus*, longior, thorace latitudine fere longiore, lateribus late rotundato, postice angustato vix sinuato, basi subrotundato, utrinque profunde striato, elytris vix latioribus, profunde striatis, postpectore abdominisque lateribus punctatis. Long. .5.

New York, Mr. Guex. Extremely similar to *P. adoxus*, with which I for some time confounded it. Besides the difference in the form of the base of the thorax, and the marginal line behind the posterior angles, the large punctures of the pectus and sides of the abdomen immediately distinguish this species.

11. *P. californicus*, thorace latitudine subbreuiore, lateribus late rotundatis, postice subangustato, basi recte truncato, utrinque profunde striato, elytris non latioribus, striatis, subdeplanatis, interstitiis externis paulo convexioribus, pectore sub-punctato. Long. .42—.52.

Mannerheim, Bull. Mosc. 1843, 199.

Feronia (Pecilus) californica Dej. Spec. Gen. 3, 223.

Brachystylus californicus Chaud. Bull. Mosc. 1838, 17.

Var. ? *Pterostichus vicinus* Man. Bull. Mosc. 1843, 206.

Very abundant at San Francisco and San Jose, California. There appears to be a slight variation in the form of the thorax and elytra, sufficient to account for *Pterostichus vicinus* Man., but after a careful examination of a very large number of specimens, I can seize on nothing tangible as a specific character. The humeri are slightly toothed in this species.

13. *P. simplex*, thorace latitudine subbreuiore, quadrato, lateribus late rotundatis, postice vix angustato, basi recto, utrinque profunde striato, elytris vix latioribus, subtilius striatis, interstitiis planis, postpectore parce punctato. Long. .58.

Lec. An. Lyc. 5, 57.

San Jose and Sta. Isabel, California; very similar to the preceding, but differs in having the thorax scarcely narrowed behind.

13. *P. algidus*, thorace planiusculo, latitudine vix brevior, lateribus late rotundatis, postice vix angustato, basi recto, utrinque profunde striato, ad angulum obsolete impresso, elytris vix latioribus, profunde striatis, interstitiis convexis. Long. .56.

Oregon, Mr. Wilcox; given me as bearing this name in the Berlin Museum.

This may be *Feronia valida* Dej., but if so, the description makes no mention of the external basal impression, which although small and shallow is quite distinct; this and the two next species have the thorax less convex than the species described above.

14. *P. amethystinus*, thorace quadrato, lateribus anterieus late rotundatis, margine pone medium subexplanato, vix postice angustato, basi utrinque striato, ad angulum vix obsolete impresso, elytris purpurascens, vix latioribus, profunde striatis, interstitiis convexis, humeris denticulatis. Long. .4.

Man. Bull. Mosc. 1843, 201.

Hypherpes amethystinus†Chaud. Bull. Mosc. 1838.

Oregon. Resembles in form the preceding, the outer basal impression is almost lost in the slight flattening of the lateral margin.

15. *P. planctus*, thorace quadrato, postice vix angustato, lateribus subrotundatis et subsinuatis, basi utrinque striato, ad angulum striola levi, carinulaque impresso, elytris non latioribus, profunde striatis, interstitiis convexis. Long. .57.

Oregon and Sacramento City, Mr. S. S. Rathvon; collected by J. Childs, Esq. This species is very similar to *P. algidus*, the thorax is wider, less rounded on the sides, and scarcely at all narrowed behind; the outer basal impression is quite distinct. The humeri are denticulate and the elytra but little convex.

a—γ.

These are two small species, closely related to the preceding, but having the marginal line at the base of the thorax entire; the posterior angles are rectangular, and sharp. The first joint of the abdomen is marked each side with a very distinct transverse line, as in *Evarthrus*, while in all the preceding species there is nothing of the kind to be seen; the groove on the outer margin of the posterior tarsi is distinct in the second species, but obsolete in the first.

16. *P. linearis*, valde elongatus, subdepressus parallelus, thorace latitudine longiore, lateribus subrotundatis, postice angustato, basi utrinque striato, striolaque ad angulum impresso, elytris profunde striatis, interstitiis convexis, pedibus rufo-piceis. Long. .3.

One specimen, San Francisco. Piceous black, very narrow parallel and subdepressed. Head long, eyes not prominent. Thorax a little wider than the head, longer than wide, very slightly rounded on the sides, scarcely at all narrowed behind, base subsinuate very finely margined, transverse impressions slight, distinct; longitudinal line nearly entire, basal impression linear short; outer basal impression very short, not deep, but distinct. Elytra not wider than the thorax, parallel, deeply striate, interstitial spaces convex; marginal series of points widely interrupted. Feet antennæ and palpi rufo-piceous. This seems very close to *Pterostichus angustus* (Man.) but in Dejean's description there is no mention of the small basal line at the posterior angle of the thorax, and the interstices of the elytra are said to be flat.

17. *P. longicollis*, elongatus subcylindricus, thorace convexiusculo latitudine fere longiore, lateribus rotundatis, postice angustato, basi utrinque striato, elytris striatis, interstitiis planis. Long. .33.

Oregon, Mr. Wilcox; it bears this name in the Berlin Museum. Piceous black, elongate, subcylindrical. Head long, eyes not prominent, antennæ longer than the thorax. Thorax scarcely one-half wider than the head, a little longer than wide, moderately convex, narrowed behind, rounded on the sides, which are very shortly sinuate at the posterior angles, which are small and prominent; transverse impres-

sions not deep, dorsal line entire; base subsinuate, margined; basal impressions linear, short, single. Elytra elongate, not wider than the thorax, moderately convex; striæ moderately deep, impunctured, scutellar stria very short, interstices almost flat; marginal series of punctures not interrupted, humeri much rounded.

b.

This group contains but a single species having the same form of body as those without dorsal punctures, but differing in having the second stria marked posteriorly with two punctures. The striæ are very deep, and the margin posteriorly has a slight elevation, which is the last remnant of the space between the two outer marginal striæ which distinguish the first division of the genus. The thorax is narrowed behind, with the posterior angles sharp; finely margined on the sides; the base is slightly margined each side, the basal impression is single and deep; the antennæ are moderate as in the preceding groups; the body is without wings, and the parapleuræ are short; the first joint of the abdomen is scarcely impressed, and is moderately punctured; the outer marginal furrow of the tarsi is deep.

18. *P. lachrymosus*, thorace latitudine subbreuiore, postice angustato lateribus late rotundatis, angulis posticis obtusis, impressionibus basalibus profundis subrugosis, elytris paulo latioribus, profunde striatis, bipunctatis, interstitiis convexis. Long. .6.

Feronia lachrymosa Newman, Ent. Mag. 5, 386.

Southern States, rare. The anterior transverse impression of the thorax is deep; the elytra are but little convex.

c.

This group contains but a single apterous species of moderately slender and depressed form, with trapezoidal thorax finely margined on the sides, with sharp posterior angles and single linear basal impressions. The elytra have the seventh stria indistinct anteriorly, and very deep posteriorly; the dorsal punctures are three, the two posterior being in the second stria. The scutellar stria is very distinct. This species has a strong relation to those of group (i) but differs essentially by its short parapleuræ; the mentum tooth is short and scarcely emarginate.

19. *P. lubricus*, nitidus, thorace latitudine non breuiore, postice angustato, lateribus rotundatis non sinuatis, basi utrinque profunde impresso, elytris vix latioribus, striatis, 3-punctatis, stria 7^{ma} apice valde exarata. Long. .35.

This pretty little species is found in the upper part of Georgia. The male has the last ventral segment widely excavated, and armed anteriorly with a prominent acute dentiform tubercle.

d.

Two oblong elongate species, quite anomalous by the position of the second dorsal puncture in the third stria, while in all the rest it is in the second stria. The

scutellar stria is punctiform or completely wanting; the exterior striæ of the elytra are obsolete. The thorax is trapezoidal, narrowed behind, with the posterior angles very obtuse and rounded; the lateral margin is narrower, the basal impressions short, deep, single; the parapleuræ are short, the sides of the abdomen strongly punctured, the last ventral segment simple in both sexes. The mentum tooth is short; the outer margin of the tarsi not grooved.

20. *P. obscurus*, nitidus, thorace latitudine vix brevior postice angustato, angulis posticis rotundatis, basi utrinque profunde breviter impresso, elytris non latioribus, striis 4 profundis, 5^a tenui, tripunctatis, puncto 2^{do} ad striam tertiam sito, pedibus piceis. Long. .42.

Feronia obscura Say, Trans. Am. Phil. Soc. 4, 435. Lec. An. Lyc. 4, 453.

Southern and Western States, very rare.

21. *P. ventralis*, nitidus, thorace subrotundato, angulis posticis fere obsoletis, basi utrinque profunde breviter impresso, elytris striis profundis punctatis, 7^{ma} antice obsoleta, tripunctatis, puncto 2^{do} ad striam 3^{iam} sito, antennis pedibusque ferrugineis. Long. .35.

Feronia ventralis Say, Tr. Am. Phil. Soc. 2, 46.

A unique specimen, from Louisiana, kindly given me by Dr. Schaum.

e.

We have here a numerous division, with three dorsal punctures, and long parapleuræ; they are usually winged, the thorax is very finely margined, but little narrowed behind, not sinuate, or scarcely sinuate on the sides, with the posterior angles not rounded and scarcely prominent; the anterior transverse line is interrupted: the basal impressions are single, linear, deep, usually punctured; the lateral groove on the external margin of the tarsi, which is obsolete in most of the preceding groups, here becomes very deep; the body is usually flattened, rarely subcylindrical; it corresponds in part to *Dysidius Chaud.*

22. *P. lustrans*, depressus, thorace breviusculo, postice subangustato, lateribus late rotundatis, postice subsinuatis, basi punctato, utrinque striato, angulis posticis subacutis, elytris striis impunctatis, interstitiis subconvexis, 3^{io} tripunctato. Long. .42.

LeConte An. Lyc. 5, 57.

San Francisco and San Jose, California. Differs from *P. mutus* by the thorax being less narrowed behind, and the striæ of the elytra finer and without any appearance of punctures. The parapleuræ are less punctured, and the base of the abdomen nearly smooth; the posterior tibiæ of the male are slightly pubescent internally.

23. *P. mutus*, subdepressus, piceo-niger nitidus, thorace latitudine fere longiore, postice subangustato, lateribus rotundatis, basi subrotundato, utrinque punctato et profunde striato, angulis posticis distinctis, elytris tripunctatis, striis profundis, punctulatis. Long. .4—47.

LeConte, Agass. Lake Superior, 206.

Feronia muta Say, Trans. Am. Phil. Soc. 2, 44.

Feronia morosa Dej. Sp. Gen. 3, 283.

Omasus picicornis Kirby, Fauna Bor. Am. 4, 33.

Adelosia muta Lec. An. Lyc. 4, 335; (synon. imperfecta).

Adelosia morosa Lec. ibid. 4, 335.

Abundant throughout the Atlantic district. The thorax is sometimes a little sinuate posteriorly, which causes the posterior angles to be a little prominent; it is on an infinitesimal difference of this kind, that having mistaken *Feronia carbonaria* Dej. I based my faulty synonymy in the Annals of the Lyceum; the posterior tibiæ of the male are strongly pubescent internally.

24. *P. purpuratus*, niger nitidus, thorace latitudine non brevior, postice non angustato, lateribus rotundatis, angulis posticis obtusis fere rotundatis, basi utrinque profunde striato, elytris æneo-purpureis, tripunctatis, striis profundis impunctatis, interstitiis convexis. Long. .53.

This beautiful species, which approaches very closely to the preceding, was given me by Dr. Schaum, who procured it in Ohio from Mr. Jenison. The posterior tibiæ of the male are still more densely pubescent internally than in the preceding species.

25. *P. erythropus*, sub-ellipticus, nitidus, thorace rotundato-quadrato, antrosum subangustato, lateribus postice explanatis, basi subrotundato, utrinque striato, elytris tripunctatis, striis impunctatis, 7^{ma} antice oblitterata, pedibus ferrugineis. Long. .33.

LeConte, Agassiz' Lake Superior, 206.

Feronia (Argutor) erythropus Dej. Sp. Gen. 2, 243.

Platyderus nitidus Kirby, Fauna Bor. Am. 29.

Platyderus erythropus Lec. An. Lyc. 4, 231.

Found in every part of the Atlantic district. Although it differs from the other species in having the base of the thorax immarginate, even at the sides, I have joined it in the same group with them, to avoid multiplying the groups too much. A more important difference is found in the absence of the scutellar stria, which is represented by a single point.

26. *P. femoralis*, apterus, thorace latitudine non brevior, postice subangustato, lateribus rotundato, angulis posticis obtusis non rotundatis, basi utrinque profunde striato, elytris striis profundis punctulatis, interstitiis subplanis, 3^{io} tripunctato, tibiis tarsisque rufo-piceis. Long. .28.

Argutor femoralis Kirby, Fauna Bor. Am. 4, 30.

New York, one specimen; the three impressed points are smaller than usual.

27. *P. patruelis*, elongatus, apterus, subcylindricus, thorace latitudine non brevior, postice subangustato, lateribus modice rotundatis, angulis posticis non rotundatis, basi recto utrinque striato et punctato, elytris striis impunctatis, profundis, interstitiis subplanis, 3^{io} tripunctato, pedibus piceis. Long. .3.

Lec. Agassiz' Lake Superior, 206.

Feronia patruelis Dej. Sp. Gen. 5, 759.

Argutor patruelis Lec. An. Lyc. 4, 337.

Middle and Western States and Lake Superior. This species, as well as *P. femoralis* and *P. mandibularis*, is apterous.

28. *P. mandibularis*, elongatus, apterus, subcylindricus, thorace latitudine vix brevior postice subangustato, lateribus magis rotundatis, postice breviter subsinuatis, basi utrinque striato et punctulato, elytris tripunctatis, striis punctulatis, pedibus rufis. Long. .25.

Lec. Agassiz' Lake Superior, 206.

Argutor mandibularis Kirby, Fauna Bor. Am. 4, 31.

North side of Lake Superior; although closely related to the preceding species, the parapleuræ are much shorter, so that it might almost be placed in division (c.); the parapleuræ and sides of the abdomen have a few scattered punctures. Kirby mentions only two dorsal punctures. In my specimens the three punctures are visible except in one, where the posterior point is obliterated; in one specimen the left elytron has four points, one being placed between the second and the posterior point.

f.

Oblong species with long parapleuræ; the thorax is narrowed behind, with the posterior angles sometimes obtuse, sometimes prominent. The basal impressions are bistriate, with a small carina adjacent to the angle. The margin of the thorax is narrow, although a little broader than in the last group; the elytra have three dorsal punctures; the scutellar stria is distinct; the pectus is more or less punctured; the first segment of the abdomen has an impression; all are winged, and all have the groove on the outer margin of the tarsi deep.

29. *P. acutangulus*, nitidissimus, thorace postice angustato, lateribus rotundatis postice sinuatis, angulis posticis prominulis, impressionibus basalibus vix rugosis, elytris vix latioribus, tripunctatis, striis vix punctulatis, interstitiis subplanis. Long. .65.

Lyperus acutangulus Chaud. Bull. Mosc. 1843, 101.

New York, Illinois, Louisiana; the abdomen of the male has a round impression on the last joint.

30. *P. luctuosus*, thorace postice angustato, lateribus rotundatis, postice breviter sinuatis, angulis posticis prominulis, impressionibus basalibus punctatis, elytris vix latioribus, tripunctatis, striis profundis punctulatis. Long. .41—.5.

Feronia (*Omascus*) *luctuosus* Dej. 3, 284.

Omascus nigrita† Kirby, Fauna Bor. Am. 4, 32.

Stercoccus caudicalis† Lec. An. Lyc. 4, 336.

New York, Lake Superior, and Missouri Territory. The reference to *Feronia caudicalis* Say, is very doubtful, as the antennæ do not at all agree; the last joint of the abdomen of the male is scarcely impressed. I am somewhat doubtful whether Dejean's name should belong to this or to the next species, which agrees better in size; the present one is certainly much more related to *P. anthracinus* of Europe with which Dejean compares his *F. luctuosa*.

31. *P. abjectus*, thorace latitudine non brevior, postice subangustato, lateribus late rotundatis vix sinuatis, angulis posticis subobtusis, impressionibus basalibus punctatis, elytris vix latioribus, tripunctatis, striis profundis punctulatis. Long. .37.

Middle States and Lake Superior; common. The thorax less rounded and not sinuate on the sides, at once distinguishes this from the preceding; the abdomen of the male is simple. I can scarcely understand how this species has remained undescribed so long.

32. *P. corvinus*, thorace breviusculo, postice angustato, lateribus rotundatis non sinuatis, angulis posticis subobtusis, impressionibus basalibus parce punctatis, clytris striis profundis, vix punctulatis. Long. .58.

Lec. Agassiz' Lake Superior, 207.

Feronia (*Omaseus*) *corvina* Dej. Sp. Gen. 3, 281.

Georgia, New York and Lake Superior. One specimen from the last place has the thorax covered with very deep transverse wrinkles, but does not otherwise differ. The last ventral segment of the male is simple.

g.

These are oblong flattened species, very similar to those in (e.), but having usually a wider margin to the thorax, and five large foveæ on the elytra; the epipleuræ are moderately long, the first joint of the abdomen not impressed; the outer tarsal groove is deep. The thorax is narrowed behind, not sinuate, or scarcely sinuate on the sides, the basal impressions are punctured and single. The native species are winged, and correspond to Chaudoir's *Bothriopterus*.

33. *P. orinomum*, piceo-niger, subæneus nitidus, thorace latitudine subbreuiore, postice subangustato, lateribus æqualiter marginatis, basi truncato utrinque striato et punctato, elytris 5-foveolatis, striis punctulatis. Long. .45.

Lec. Agassiz' Lake Superior, 206.

Omaseus orinomum Curtis; teste Kirby, Fauna Bor. Am. 4, 32.

Abundant at Lake Superior; also in Oregon. The specimen from the latter locality was compared by Klug and considered identical with European specimens. As however the *P. adstrictus* is found at Sitkha, there is some probability that our species may in reality be the same with it: the only point of difference seems to be in the color; which in ours is not pure black, but piceous with a very slight bronzed tint. I hope soon to have specimens from Russian America to determine this point. Dr. Zimmerman, considering ours as distinct from the *P. orinomum*, has proposed for it the name of *P. septentrionalis*.

34. *P. Luczotii*, piceo-niger, vix ænascens, thorace latitudine brevior, postice subangustato, lateribus marginatis, margine postice paulo latiore, basi subrotundato, utrinque striato et punctato, elytris subopacis 5-foveolatis, tenuiter striatis, interstitiis fere planis. Long. .4—5.

Lec. Agassiz' Lake Sup. 206.

Feronia Luczotii Dej. Sp. Gen. 3, 321.

Feronia oblongonotata Say, Tr. Am. Phil. Soc. 4, 425.

Adelosia oblongonotata Lec. An. Lyc. 4, 335.

Lake Superior and Maine; abundant. Although Dejean described *Feronia Luczotii* as apterous, yet this species agrees so perfectly in other respects that I am obliged to consider it the same. It is difficult to believe that species so closely related as *P. Luczotii* and the neighboring species would differ in such a particular, if it were a constant character, and I therefore conclude that Dejean's observations were made on an imperfect individual.

h.

In these species the margin of the thorax is wider and more reflexed than in any of the preceding; it is a little narrowed behind; the posterior angles are obtuse, the basal impression is large and very deep, obsoletely bistrate, with a carina adjacent to the angle; the elytra are deeply striate and have normally but two dorsal punctures both in the second stria, one before, the other behind the middle; frequently specimens are found with three, or even four dorsal punctures, but a practised eye at once distinguishes the normal from the accidental points. The parapleuræ are short, and punctured, the first joint of the abdomen is impressed; the exterior marginal tarsal groove is distinct. They are all apterous.

35. *P. coracinus*, thorace quadrato, lateribus late rotundato, postice subangustato, angulis posticis obtusis rotundatis, basi utrinque late profunde foveato et punctato, carina angulari distincta, elytris vix latioribus bipunctatis, striis profundis impunctatis, interstitiis convexis. Long. .7.

Lec. Agassiz' Lake Sup. 206.

Feronia coracina Newman, Ent. Mag. 5, 386.

Niagara and Mackinaw. The basal carina of the thorax is parallel with the margin and is more elevated than in the following species; the basal impression is deep and scarcely striate.

36. *P. adiunctus*, thorace quadrato, breviusculo, lateribus late rotundato, postice subangustato, basi utrinque late profunde foveato et punctato, carina angulari distincta, elytris vix latioribus, bipunctatis, striis profundis impunctatis, interstitiis convexis. Long. .6.

Lake Superior. This species very closely resembles the last; the posterior angles of the thorax are obtuse but scarcely rounded. The basal carina narrows the lateral margin posteriorly, instead of being parallel with it as in *P. coracinus*; the basal impression is deep, rather rugous than punctured, and scarcely bistrate. Newman has described several species with bipunctate elytra, but with the exception of his *Feronia coracina* and *lachrymosa* I cannot recognise any of them.

37. *P. flebilis*, elongatus, thorace capite paulo latiore, latitudine fere longiore, postice subangustato, lateribus vix rotundatis, basi depresso, utrinque late foveato et punctato, carina brevi, obtusa, elytris vix latioribus, bipunctatis, striis profundis impunctatis, interstitiis convexis. Long. .6.

Lake Superior, one specimen. Also resembles the two preceding, but the thorax is much narrower and less rounded on the sides; the posterior angles are obtuse not

rounded, and the basal carina is shorter and less acute; the impressions are very obsoletely bistriate; the posterior transverse impression is deep.

38. *P. stygius*, thorace quadrato, postice subangustato, lateribus rotundatis, angulis posticis subrotundatis, basi utrinque late foveato, punctato et bistriato, elytris bipunctatis, striis profundis impunctatis, interstitiis convexis. Long. .57.

LeConte, Agassiz' Lake Superior, 206.

Feronia stygica Say, Trans. Am. Phil. Soc. 2, 41; Dej. Sp. Gen. 3, 279.

Omaseus rugicollis! Hald. Proc. Ac. Nat. Sci. 1, 300.

Lake Superior to Georgia. The basal impressions of the thorax are distinctly bistriate, and the space between the striæ is somewhat elevated; the basal carina is almost obsolete; the impressions are sometimes almost smooth, sometimes densely rugous and punctured.

i.

This is a single winged species, somewhat related to the preceding group, but yet so different that I at one time considered it as a peculiar genus. The thorax is narrowed behind, with the posterior angles obtuse and rounded: the lateral margin equally broad before and behind, strongly reflexed; the basal impressions not deep, punctured and marked with a single stria. Elytra wider than the thorax, flattened, bipunctate, the anterior puncture not placed before the middle; parapleuræ long and narrow, first joint of the abdomen subimpressed, punctured. Antennæ slender, mentum tooth entire, obtuse, concave. The groove on the exterior margin of the posterior tarsi is distinct.

39. *P. submarginatus*, depressus, thorace transverso postice angustato, lateribus rotundatis, angulis posticis subrotundatis, basi utrinque late foveato et punctato, elytris latioribus, striis profundis subtiliter punctatis, interstitiis subplanis, 3^{io} bipunctato, pedibus rufo-piceis. Long. .5.

Feronia submarginata Say, Trans. Am. Phil. Soc. 2, 45; Dej. Sp. Gen. 3, 309.

Piesmus submarginatus Lec. An. Lyc. 4, 341.

Pacilus monedula Germar, Ins. Nov. 18.

?? *Feronia picipes* Newman, Ent. Mag. 5, 387.

Southern States, abundant.

k.

This contains one apterous species of elongate form, with large head. The thorax is trapezoidal, much narrowed behind, the margin wider behind and reflexed, the basal impressions large and deep, without striæ. Elytra wider than the thorax, striæ deep, third space with four punctures; the third being on the second stria, the other three on the third. Parapleuræ very short: first joint of the abdomen impressed; outer tarsal grooves deep. The last ventral segment of the male is marked with a wide excavation.

40. *P. moestus*, thorace latitudine subbreuiore, postice valde angustato, lateribus antice paulo rotundato, angulis posticis rotundatis, margine reflexo postice latiore, basi utrinque late profunde foveato et punctulato, elytris minus convexis paulo latioribus, profunde striatis, 4-punctatis. Long. .68.

Feronia moesta Say, Trans. Am. Phil. Soc. 2, 42.

Feronia superciliosa Say, Journ. Ac. Nat. Sci. 3, 144.

? *Feronia relictæ* Newman, Ent. Mag. 5, 387.

Pennsylvania and Lake Superior. Newman mentions but three dorsal punctures, but as one of my specimens has only three on one side, I am inclined to think that the synonym is correct. So far as his very uncharacteristic description goes, it agrees well with the present species.

l.

One apterous species from far northern regions, having a quadrate thorax but little narrowed behind, with the reflexed margin wider towards the base, the basal impressions large, without striæ, and the basal angles obtuse; the elytra very little wider than the thorax, with the striæ deep, irregularly broken and twisted, so as to make the second, fourth, sixth and eighth spaces wider than the others and somewhat catenate. The parapleuræ are moderate, the first joint of the abdomen scarcely impressed; the outer tarsal grooves deep. The male has the last joint of the abdomen excavated as in the preceding species.

41. *P. punctatissimus*, pernitidus, thorace subtransverso, postice subangustato, lateribus paulo rotundatis, margine reflexo postice latiore, basi utrinque late profunde foveato et punctato, elytris paulo latioribus, striis profundis, undulatis, interstitiis alternatim latioribus interruptis et foveatis. Long. .57.

Feronia (Pterostichus) punctatissima Randall, Boston Journal Nat. Hist. 2, 3.

North shore of Lake Superior, not common. Mr. Randall's specimen came from the mountains of Maine. By comparison with the fragments of the original specimen, I have convinced myself of the identity of the Lake Superior species.

m.

Three apterous species placed in the division *Abax* by Dejean, but differing essentially from the European species by having dorsal punctures and only a single exterior marginal stria. The body is elliptical, not convex, the thorax narrowed in front, the lateral margin very narrow at the anterior angles, becoming wide and depressed posteriorly; the basal impressions double, separate, with a slight elevation between the outer one and the margin. The elytra are deeply striate, with three dorsal punctures in the usual situation. The parapleuræ are very short, the first joint of the abdomen with a very strong impression; the outer tarsal grooves scarcely distinct. Antennæ short, slender. The last ventral segment of the males is simple.

42. *P. fallax*, nitidus, thoracis margine impunctato, elytris profunde striatis, tripunctatis, interstitiis convexis, abdominis lateribus impunctatis. Long. .65.

Feronia (Abax) fallax Dej. Sp. Gen. 3, 321.

Georgia, rare. Wider than the two following species, less shining, and scarcely iridescent; the pectus is punctured, but the abdomen is smooth.

43. *P. sculptus*, nitidissimus, cyaneo-micans, thoracis basi et margine punctato, elytris tripunctatis, profunde striatis, interstitiis convexis, abdominis lateribus punctatis. Long. .55—.7.

**Feronia (Abax) striata*|| Dej. Sp. Gen. 3, 390.

Southern States, not rare.

44. *P. permundus*, nitidissimus, cyaneo-micans, thoracis margine et basi punctato, elytris tripunctatis, striis profundis punctulatis, interstitiis convexis, abdominis lateribus punctatis. Long. .6.

Abax permundus Say, Trans. Am. Phil. Soc. 4, 426.

Missouri and Illinois. This must be Say's species, although he described the striæ of the elytra as impunctured; the punctures are very small but distinctly visible with a powerful lens. It is closely allied to the preceding species but is narrower and more parallel.

LOPHOGLOSSUS Lec.

Antennæ tenues, basi non carinatæ; palpi cylindrici, articulo ultimo vix brevior; mentum dente medio concavo et emarginato, ligula carinata apice subemarginata, paraglossis elongatis, linearibus; labrum leviter emarginatum; parapleuræ elongatæ; abdomen articulo 1^{mo} non impresso; elytra punctis dorsalibus tribus, striaque scutellari notata; tarsi posteriores extus non sulcati, anteriores maris articulis 3 oboeordatis, emarginatis; tibiis intermediis maris intus versus apicem emarginatis et bidentatis.

This genus only differs from *Pterostichus* in the form of the ligula, and I have some doubts whether it should really be separated; but in order to leave the limits of the preceding genus distinctly defined, it will be necessary to retain this as a generic group, since it has no trace of a groove on the outer margin of the four posterior tarsi. This genus in part corresponds to Chaudoir's *Lyperus*.

The three species below described correspond in the following particulars. The head is large, the eyes prominent. The thorax subtransverse, narrowed behind, a little rounded on the sides, which have a strongly reflexed margin gradually becoming wider behind; anterior transverse line deep, distant from the margin; the basal angles obtuse, not rounded, the basal impressions deep and single; the elytra are flattened, little wider than the thorax, deeply striate, the striæ a little less deep at the apex; the margin is narrow, and the ninth stria is equidistant between the series of punctures and the margin; the humeral angles are distinct and rounded. The body is oblong and winged.

1. *L. Haldemani*, depressus, elytris tripunctatis, opacis, tenuiter striatis, interstitiis subconvexis, pectore toto punctulato. Long. .87.

Lyperus Haldemani LeConte, An. Lyc. 4, 341.

One female from Alabama, Haldeman. Distinguished from the following by its opaque elytra with much finer striæ.

* *Carabus striatus* Payk. = *C. niger* Fabr.

2. *L. tartaricus*, depressus, nitidus, elytris tripunctatis, profundius striatis, interstitiis convexis, pectore toto punctulato. Long. .63—.83.

Feronia tartarica Say, Trans. Am. Phil. Soc. 2, 44.

Feronia complanata Dej. Sp. Gen. 3, 281.

Lyperus tartaricus Lec. An. Lye. 4, 341.

Southern States. The subapical tooth of the intermediate tibiæ of the male is very obtuse; the apical process large.

3. *L. strenuus*, depressus, nitidus, elytris tripunctatis, profundius striatis, interstitiis convexis, pectore toto lævi. Long. .7.

This species is exactly similar to the preceding, except that the thorax is less narrowed behind, and that the pectus is entirely smooth; there are traces of a few punctures upon the prosternum. For a single male specimen, found at New York, I am indebted to my friend J. C. Brevoort; the tooth of the intermediate tibiæ is sharp; the apical process not visible.

4. *L. scrutator*, pernitidus, depressus, elytris tripunctatis, striis externis subobsoletis, interstitiis subconvexis, pectore parce punctulato. Long. .6.

Lyperus scrutator Lec. An. Lye. 4, 342.

Cleveland, Ohio. The locality given in my former description is incorrect. This species again is almost exactly like the preceding, but the posterior angles of the thorax are a little less prominent; the striæ of the elytra are less deep, and become fainter towards the apex, the seventh stria is almost obliterated. The subapical tooth on the inner surface of the intermediate tibiæ of the male is long and sharp, and the apical process is not distinct.

HOLCIOPHORUS Lec.

Antennæ crassiusculæ, basi non carinatæ; palpi cylindrici, articulo ultimo brevior; mentum dente medio concavo et emarginato, ligula carinata apice late angulatim emarginata, paraglossis linearibus paulo longioribus; labrum emarginatum; parapleuræ breves; abdomen articulo 1^{mo} impresso; elytra punctis dorsalibus nullis, sed stria scutellari notata; tarsi posteriores extus non sulcati; antici maris articulis 3 dilatatis, obcordatis, profunde emarginatis; tibiæ posteriores maris intus obtuse serrulatæ.

This genus is founded on a very fine species from California, also with carinate ligula, and without any tarsal grooves; but differing from the preceding by its thicker antennæ, short epipleuræ and the absence of dorsal punctures.

The head is large, the thorax flat trapezoidal, emarginate anteriorly, much narrowed behind, moderately margined on the sides, margin reflexed, not wider behind, posterior angles rectangular, basal impressions deep, with two slight striæ; elytra not wider than the thorax, flattened, dorsal punctures none; scutellar stria distinct, between the first and second striæ; margin a little broader than usual; marginal stria not equidistant between the punctures and margin; tarsi thick, fourth

joint deeply emarginate; intermediate and posterior tibiæ of the male obtusely serrate along nearly the whole of the internal margin. The body is elongate, moderately slender, depressed and apterous.

1. *H. ater*, subnitidus thorace latitudine vix brevior, lateribus subrotundatis postice crenatis et subsinuatis, elytris tenuiter striato-punctatis, interstitiis subplanis, humeris deuticulatis. Long. 1.0—1.15.

Feronia (*Pterostichus*) *atra* Dej. Sp. Gen. 3, 339.

Feronia (*Percus*) *luma* Ménetriés, Bull. Acad. Petrop. 2, 59.

Sacramento, Mr. Rathvon; collected by Mr. Joshua Childs. The male has a carina on the last ventral segment, extending from the tip forwards and ending in an acute elevated dentiform tubercle, just as described by Dejean.

The Russian Entomologist Motschoulsky (Bull. Mosc. 1845) says that the *Pterostichus ater* *Man.* and *Ménetriés* is a very different species belonging to Chaudoir's group *Brachystylus*. Mannerheim's description is so short as to be obscure. By a recent manuscript catalogue of Baron Chaudoir, I see that he proposes to call this second large species, which is left without a name, *Brachystylus megas*.

LOXANDRUS Lec.

MEGALOSTYLUS||Chaudoir.

Antennæ tenues, basi non carinatæ; palpi cylindrici tenues, articulo ultimo vix brevior; mentum dente medio obtuso vix concavo, ligula subplana, apice truncata, paraglossis linearibus multo longioribus; labrum non emarginatum; mandibulæ breves; parapleuræ elongatæ; elytra puncto dorsali unico, stria scutellari nulla impressa; tarsi tenues, posteriores extus sulcati, antici maris articulis tribus dilatatis intus prolongatis, valde obliquis.

This genus seems peculiar to Eastern North America; besides the characters given above, the pubescence of the antennæ is denser and more equally diffused than in the preceding genera; the parapleuræ are more strongly margined, and the spines of the posterior tibiæ are stouter and more rigid; in the posterior tarsi the fourth joint is very small, and the last joint is as long as the three preceding united. The body is oblong, depressed and winged; the color is very brilliant black, with iridescent reflections; the thorax is subtransverse, scarcely or not at all narrowed behind, rounded on the sides, with the basal impressions single, linear and straight; the anterior transverse line is strongly impressed; the margin of the elytra is very narrow, the marginal or ninth stria is lost in the concavity of the margin, and is distant from the ocellate punctures; the posterior tibiæ of the males are slightly bent inwards.

1. *L. saphyrinus*, thorace latitudine sesqui brevior, lateribus rotundatis postice subexplanatis, angulis posticis rotundatis, basi utrinque striato, elytris striis profundis antice punctulatis, pedibus piceis, antennarum articulo primo rufo. Long. .6.

Megalostylus saphyrinus Chaudoir, Bull. Mosc. 1843, 96.

New Orleans; for a unique specimen I am indebted to Dr. Schaum; the iridescent reflections are more brilliant than in the other large species.

2. *L. rectus*, thorace latitudine brevior, lateribus rotundatis, angulis posticis subobtusis vix rotundatis, basi utrinque striato et parce punctato, elytris striis profundis fortiter punctulatis, antennis palpis pedibusque rufis. Long. .41—.52.

Feronia recta Say, Trans. Am. Phil. Soc. 2, 58.

Feronia (Argutor) lucidula Dej. Sp. Gen. 3, 329.

Pogonus rectus Say, Trans. Am. Phil. Soc. 4, 421.

Argutor lucidulus Lec. An. Lye. 4, 340.

Megalostylus laticollis Chaudoir, Bull. Mosc. 1843, 96.

Argutor laticollis Lec. An. Lye. 4, 340.

Southern States; very abundant. The last two names belong to a scarcely perceptible variety with rather sharper posterior thoracic angles. I falsely considered (An. Lye. 4, 338) *Feronia recta* Say as being *F. velox* Dej., but by a strange oversight neglected the size, which in the species of this genus is of considerable importance. Say's description requires an insect nearly three-fifths of an inch in length.

3. *L. brevicollis*, thorace latitudine sesqui brevior, antrosum subangustato, lateribus late rotundatis, angulis posticis obtusis minime rotundatis, basi utrinque striato vix parce punctato, elytris striis profundis vix obsolete punctulatis, pedibus piceis, antennis, tarsis palpisque rufo-piceis. Long. .43.

Argutor brevicollis Lec. An. Lye. 4, 338.

Argutor minor† Lec. An. Lye. 4, 338.

Pennsylvania and Georgia; rare. The last synonym belongs to an infinitesimal variety with rufo-piceous tibiæ; this species is broader than the other species with dark legs.

4. *L. erraticus*, thorace latitudine vix brevior, lateribus antice late rotundatis, angulis posticis subrectis, minime rotundatis, basi utrinque striato, vix parce punctato, elytris striis profundis antice subtilius punctulatis, antennis palpis tarsisque rufo-piceis. Long. .44.

Feronia (Argutor) erratica Dej. Sp. Gen. 3, 240.

Megalostylus erraticus Chaudoir, Bull. Mosc. 1843, 96.

Argutor erraticus Lec. An. Lye. 4, 339.

Southern States; abundant.

4. *L. minor*, thorace latitudine brevior, antrosum subangustato, lateribus rotundatis, angulis posticis obtusis subrotundatis, basi utrinque striato, elytris striis profundis antice vix punctulatis, antennis, palpis, tibiis tarsisque rufo-piceis. Long. .4.

Megalostylus minor Chaudoir, Bull. Mosc. 1843, 96.

Argutor nitidulus Lec. An. Lye. 4, 339.

Georgia and Louisiana. The sides of the thorax are more regularly rounded than in the preceding and do not descend obliquely towards the base.

5. *L. celer*, thorace latitudine non brevior, antrosum vix angustato, lateribus rotundatis, angulis posticis obtusis, basi utrinque breviter striato, vix punctato, elytris striis profundis punctulatis, macula communi postica, antennarumque articulo primo late rufis. Long. .3.

Feronia (Argutor) celeris Dej. Sp. Gen. 3, 246.

Argutor celeris Lec. An. Lyc. 4, 337.

Georgia and Pennsylvania; very rare. My only specimen has the epipleuræ rufous, but this is probably the result of immaturity.

6. *L. agilis*, thorace latitudine subbrevior, antrosum subangustato, lateribus rotundatis, angulis posticis rectis rotundatis, basi parce punctato, utrinque breviter striato, elytris striis profundis subtiliter punctulatis, antennarum basi tibiis tarsisque rufis. Long. .3.

Feronia (Argutor) agilis Dej. Sp. Gen. 3, 244.

Argutor agilis Lec. An. Lyc. 4, 338.

Southern States. In the Annals of the Lyceum I erroneously quoted *Argutor femoralis* Kirby, as a synonym. That species, however, having three dorsal punctures, cannot belong to this genus.

7. *L. pusillus*, thorace latitudine brevior, antrosum subangustato, lateribus late rotundatis, angulis posticis subrectis rotundatis, basi utrinque breviter striato, elytris striis antice subtiliter punctulatis, antennarum basi pedibusque rufis. Long. .3.

Georgia; one specimen. This species has probably been confounded with *L. velox*, from which it differs by the thorax being broader, narrowed in front, less rounded on the sides and posterior angles. The striæ of the elytra are distinctly punctured as far as the middle; the interstitial spaces are wider and more flat than is usual in this genus.

8. *L. velox*, thorace latitudine subbrevior, antrosum non angustato, lateribus magis rotundatis, angulis posticis rectis rotundatis, basi utrinque breviter striato, elytris striis antice punctulatis, antennarum basi pedibusque rufis. Long. .26.

Feronia (Argutor) velox Dej. Sp. Gen. 3, 245.

Argutor rectus† Lec. An. Lyc. 4, 338.

Pennsylvania; rare. The striæ of the elytra are deep, but the interstices are moderately flat.

8. *L. tæniatus*, thorace latitudine non brevior, antrosum non angustato, lateribus late rotundatis, basi vix parce punctato, utrinque striato, angulis posticis rectis subrotundatis, elytris striis profundis vix obsolete punctulatis, antennis pedibusque rufis, femoribus subtus nigro-maculatis. Long. .26.

Louisiana; Dr. Schaum. Resembles the next species in the form of the thorax, but the general form is narrower. In the single specimen I have, the anterior transverse line of the thorax is not visible. If this character be constant, it will enable this species at once to be distinguished from all the others, except *L. crenatus*.

9. *L. piciventris*, thorace latitudine non brevior, antrosum non angustato, lateribus late rotundatis, angulis posticis rectis subrotundatis, basi utrinque striato, elytris striis antice punctulatis, antennis pedibusque rufis. Long. .22.

Argutor piciventris Lec. An. Lyc. 4, 337.

Georgia; one specimen. The form of the thorax and the smaller size distinguish this species from *L. velox*. The external joints of the antennæ in this and the last species are but little darker than the basal ones.

10. *L. crenatus*, thorace latitudine subbreuiore, linea transversa nulla, utrinque subangustato, lateribus rotundatis, angulis posticis obtusis minime rotundatis, basi vix parce punctato utrinque striato, elytris striis crenatis, antennis palpis pedibusque testaceis. Long. .23.

One male; Georgia. Very distinct by the absence of the anterior transverse line of the thorax, and the coarse punctures of the elytral striæ, which are smooth only towards the apex. The apex of the elytra, the epipleuræ and the abdomen, are piceous, but the specimen is probably a little immature; the iridescent reflections of the upper surface are very brilliant.

PÆCILUS Bon.

Antennæ tenues, articulis 1—3 acute carinatis; palpi cylindrici, articulo ultimo vix brevior; mentum dente medio concavo, emarginato; ligula subplana, apice truncata, paraglossis eam paulo superantibus; labrum vix emarginatum; mandibulæ breves; parapleuræ subelongatæ; elytra punctis dorsalibus, striaque scutellari notata; tarsi tenues, posteriores extus sulcati; antici maris articulis 3 obcordatis, duobus primis emarginatis.

The carina on the basal joints of the antennæ easily distinguish this genus; the posterior tibiæ are very spinous, as in *Loxandrus*, but the fourth joint of the tarsi is not so small, so that the last joint is only as long as the two preceding.

We may arrange the species as follows:

- | | | |
|--|-----------|----------|
| a. Thoracis margine laterali non depresso, | | Sp. 1—6. |
| b. Thoracis margine late depresso, | | Sp. 7—9. |

a.

1. *P. subcordatus*, elongato-oblongus, depressus supra viridis, thorace postice angustato, lateribus rotundatis postice subsinuatis, angulis posticis rectis, impressione basali externa brevissima obsoleta, elytris tripunctatis, striis internis punctatis, pectore lævi, antennis rufis. Long. .4—5.

Lec. An. Lyc. 5, 37.

Colorado and Gila rivers. Very similar in form to *P. occidentalis*, but the smooth pectus and the three dorsal punctures at once distinguish it. The thorax is usually not wider than long, yet I have three specimens in which it is decidedly transverse. The punctures of the internal striæ of the elytra are sometimes indistinct.

2. *P. occidentalis*, elongato-oblongus, depressus, supra viridis, thorace postice angustato, lateribus rotundatis, basi subsinuatis, angulis posticis rectis, impressione basali exteriore brevissima fere obsoleta, elytris tenuiter striatis, bipunctatis, interstitiis planis, antennarum basi rufo-picea, pectore punctato. Long. .38—45.

?*Feronia* (*Pæcilus*) *occidentalis* Dej. Sp. Gen. 3, 231.

?*Pterostichus occidentalis* Man. Bull. Mosc. 1843, 200.

Very abundant at San Jose, under bark of trees. Varies with the body, above brassy copper, never very shining. The striæ of the elytra are sometimes very

obsoletely punctured. One of the elytra is occasionally tripunctate, but the points are all behind the middle, so that one is evidently abnormal. Only two joints of the antennæ are rufous, and I am therefore in doubt whether this is the same as Dejean's species, which has three rufous joints. I have never seen blue specimens.

3. *P. scitulus*, oblongo-elongatus, depressus, supra viridis, nitidus, thorace postice subangustato, lateribus rotundatis, basi sinuatis, angulis posticis rectis, impressionibus basalibus profundis punctatis, externa brevissima, elytris bipunctatis, profunde striatis, antennarum articulis duobus ferrugineis. Long. .35—.4. Lec. An. Lyc. 4, 334.

Platte River, Nebraska Territory. Also allied to the preceding species, but with a deep anterior transverse line on the thorax, and much deeper elytral striæ; varies of a bright bluish purple color.

4. *P. cyaneus*, oblongus, subdepressus, supra nigro-cyaneus, thorace antrorsum subangustato, lateribus rotundatis, angulis posticis obtusis minime rotundatis, impressionibus basalibus profundis, exteriore brevi, elytris bipunctatis, striis profundis, antennarum basi vix picea. Long. .45. Lec. An. Lyc. 4, 231.

Missouri Territory, near Long's Peak. The antennæ are black, with the two basal joints piceous beneath.

5. *P. Sayi*,* oblongus, subdepressus, supra cupreus, vel æneus, thorace latitudine brevior, antrorsum angustato, lateribus rotundatis, angulis posticis rectis, impressionibus basalibus punctatis, profundis, exteriore brevior, elytris bipunctatis, striis profundis punctatis, antennarum articulis tribus ferrugineis. Long. .4—.5.

Brullé, Silb. Rev. Ent. 3, 277.

Ecronia chalcites Say, Trans. Am. Phil. Soc. 2, 56.

Ecronia (Pœcilus) chalcites Dej. Sp. Gen. 3, 211.

Pœcilus chalcites Kirby, Fauna Bor. Am. 4, 37.

Pœcilus micans Chaud. Bull. Mosc. 1843, 97.

Atlantic States; tolerably abundant.

6. *P. cursor*, oblongus, purpureo-niger, thorace antrorsum angustato, lateribus rotundatis, angulis posticis subrectis, impressionibus basalibus confluentibus valde punctulatis, elytris striis impunctatis, antennarum articulis tribus ferrugineis. Long. .38—.45. *Pœcilus cursorius*|| Lec. An. Lyc. 5, 57.

* I regret extremely that I am compelled to adopt a comparatively unknown name for this abundant and well-known species. The law of priority is however inflexible, and Say's name must fall before *Pœcilus chalcites* Germ. Ins. Nov. 15. The latter was published in 1824, while Say's paper could not have been printed before 1825, the date upon the title page of the volume. It is a pity that a memoir made known to the American Philosophical Society as early as 1819 should thus yield to one five years posterior to it; but as I have observed, the law of priority is inflexible, and, except within a few years, authors have been completely at the mercy of the slow moving bodies to whom they entrusted their labors. As a remedy against this feebleness of action, an idea was broached, in this city, and debated with considerable acrimony, that the date of reading before a learned society should be considered as the true date of publication. It is remarkable that such a scheme should ever be endorsed by any one claiming to have a regard for the purity of science, as it necessarily subjects the whole scientific world to a dozen or two individuals, too often unknown to science, and to many of whom the subject brought before them must be entirely without interest.

Santa Isabel, California. The punctures of the elytra seem very variable; in one specimen there are five on one side and four on the other; in a second there are two on one side and three on the other.

b.

7. *P. lucublandus*, oblongus, subellipticus, thorace antrorsum angustato, lateribus rotundatis, postice late depressis, angulis posticis subrectis, impressionibus basalibus minus profundis, exteriore brevissima, elytris quadripunctatis, striis postice profundioribus, pectore punctato, antennarum articulis tribus ferrugineis. Long. 4—55.

Kirby, Fauna Bor. Am. 4, 36; Lec. An. Lyc. 4, 231.

Feronia lucublanda Say, Trans. Am. Phil. Soc. 2, 55.

Feronia (*Pæcilus*) *lucublanda* Dej. Sp. Gen. 3, 212.

Pæcilus fraternus Say, Long's Exped. 2, 270.

Pæcilus dilatatus Lec. An. Lyc. 4, 232.

Pæcilus castanipes Kirby, Fauna Bor. Am. 4, 37; Lec. An. Lyc. 4, 232.

Georgia, Lake Superior, Newfoundland, Rocky Mountains. Varies not only in color (copper, brassy, greenish, purple, blue and black) but even in shape, being sometimes decidedly elliptical; the basal impressions of the thorax vary from smooth to densely punctulate. The striæ of the elytra are sometimes smooth, sometimes finely punctured; the feet vary from red to black; finally, I have a specimen in which one elytron has but two dorsal punctures.

8. *P. bicolor*, oblongus, supra cyanescens, thorace antrorsum angustato, lateribus rotundatis, postice late depressis, basi obsolete punctulato, utrinque unistriato, angulis posticis rotundatis, elytris quadripunctatis, striis tenuibus, interstitiis convexis, antennarum articulis tribus pedibusque ferrugineis. Long. 46.

Lec. An. Lyc. 4, 232.

One specimen, found near the Rocky Mountains. The depressed margin of the thorax is still wider than in *P. lucublandus*; the outer basal impression is entirely wanting.

9. *P. convexicollis*, oblongus, nitidissimus, supra nigro-æneus, thorace antrorsum angustato, lateribus rotundatis, postice depressis, angulis posticis subrectis, impressionibus basalibus vix punctatis, exteriore brevi, elytris æneis tripunctatis, striis profundis, antennarum articulis tribus ferrugineis. Long. 35.

Lec. An. Lyc. 4, 233.

Feronia convexicollis Say, Trans. Am. Phil. Soc. 2, 56.

Feronia (*Pæcilus*) *convexicollis* Say, Trans. Am. Phil. Soc. 4, 424.

One specimen, found at Sault St. Marie, Michigan.

The following species from Atlantic North America are unknown to me:

Feronia (*Omaseus*) *carbonaria* Dej. Sp. Gen. 3, 283.

Feronia (*Platysma*) *ebenina* Dej. Sp. Gen. 3, 307.

Omaseus tenebrosus Chaud. Bull. Mosc. 1837.

Feronia (*Pæcilus*) *atrata* Newman, Ent. Mag. 5, 386.

- Feronia* (*Platysma*) *monedula* Newman, Ent. Mag. 5, 386.
Feronia (*Platysma*) *mœrens* Newman, Ent. Mag. 5, 387.
Feronia (*Platysma*) *picipes* Newman, Ent. Mag. 5, 387. (an *Pterostichus submarginatus*?)
Feronia honesta Say, Trans. Am. Phil. Soc. 2, 51. (an *P. patruelis*?)
Feronia caudicalis Say, *ibid* 2, 56. (genus ignotum.)
Feronia heros Say, Journ. Ac. Nat. Sc. 3, 145. (an *Evarthrus colossus*?)
Argutor brevicornis Kirby, Fauna Bor. Am. 4, 31.

Stereocerus similis Kirby, Fauna Bor. Am. 4, 34, is possibly merely a *Pterostichus*, but from the absence of dorsal punctures it may be an *Amara*; the figure resembles much *Myas foveatus* Lec., but the palpi do not at all agree in form with that genus.

The following species from Pacific North America are unknown to me.

- Pterostichus vicinus* Man. Bull. Mosc. 1843, 200. (an *P. californicus*, var.)
Pterostichus herculeanus Man. *ibid*.
Pterostichus validus Man. Bull. Mosc. *ibid*.
Pterostichus castaneus Man. *ibid*.
Pterostichus brunneus Man. *ibid*.
Pterostichus angustus Man. *ibid*.
Pterostichus fusco-æneus Man. *ibid*.
Pterostichus adstrictus Man. *ibid*.
Pterostichus seriepunctatus Man. *ibid*.
Pterostichus ventricosus Man. *ibid*.
Pterostichus pinguedineus Man. *ibid*.
Pterostichus empetricola Man. *ibid*.
Pterostichus riparius Man. *ibid*.
Brachystylus megas Chaud. Mss.
Pterostichus ater|| Man. Bull. Mosc. 1843, 206.
Feronia aterrima|| Mén. Bull. Soc. Petrop. 2, 59.
Feronia castanipes Mén. Bull. Soc. Petrop. 2, 59.
Feronia congesta Mén. *ibid*, 2, 59.